



Operator - Mobile Equipment

QP Code: ISC/Q0401

Version: 2.0

NSQF Level: 3

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ISC/Q0401: Operator - Mobile Equipment

Brief Job Description

The individual in this role operate and maintain mobile equipment such as forklift, JCB, Skid Loader, Pay Loader etc. available in a steel plant.

Personal Attributes

The person should be patient, organised, team-oriented and have the ability to work for long hours in adverse conditions. They must be able to plan and prioritise tasks effectively and have an eye for detail and quality.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [ISC/N0008: Use basic health and safety practices at the work place](#)
2. [ISC/N0009: Work effectively with others](#)
3. [ISC/N0401: Prepare the vehicle](#)
4. [ISC/N0402: Perform mobile equipment operations](#)
5. [ISC/N0403: Perform maintenance of mobile equipment](#)

Qualification Pack (QP) Parameters

Sector	Iron & Steel
Sub-Sector	Steel, Sponge iron, Ferro Alloys, Re-Rollers, Refractory
Occupation	Iron Making
Country	India
NSQF Level	3
Aligned to NCO/ISCO/ISIC Code	NCO-2015/ 8342.2101
Minimum Educational Qualification & Experience	8th Class Pass with 1 year relevant experience with valid driving licensee OR 10th Class Pass
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	Valid Driving License mandatory

Minimum Job Entry Age	18 Years
Last Reviewed On	NA
Next Review Date	NA
NSQC Approval Date	
Version	2.0

ISC/N0008: Use basic health and safety practices at the work place

Description

This OS unit is about following safety and adopting sustainable practices for optimising use of resources.

Scope

The scope covers the following :

- Maintain safe and secure working environment
- Emergencies, rescue and first aid procedures
- Health and hygiene
- Housekeeping and waste management
- Material and energy conservation

Elements and Performance Criteria

Maintain safe and secure working environment

To be competent, the user/individual on the job must be able to:

- PC1. identify hazardous activities and the possible causes of risks or accidents in the workplace
- PC2. follow safe working practices while dealing with hazards to ensure safety of self and others
- PC3. use appropriate protective clothing/equipment for specific tasks and work
- PC4. follow appropriate safety practices while working in and around trenches, elevated places and confined areas
- PC5. lift heavy objects safely using correct procedures
- PC6. carry out routine check of the machine for identifying potential hazards
- PC7. report any identified breaches in health, safety and security policies and procedures to the designated person

Emergencies, rescue and first aid procedures

To be competent, the user/individual on the job must be able to:

- PC8. use appropriate type of fire extinguisher
- PC9. apply appropriate rescue techniques during fire hazard
- PC10. provide appropriate first aid procedure to victims wherever required eg.in case of bleeding, burns, choking, electric shock etc.
- PC11. follow emergency procedures such as raising alarm, safe evacuation etc.
- PC12. attend safety training and fire drills to respond promptly during an emergency

Health and hygiene

To be competent, the user/individual on the job must be able to:

- PC13. follow regular cleaning and disinfection practices at work place using appropriate techniques and materials



PC14. follow hand hygiene practices at work place using appropriate techniques and materials

PC15. report regarding the contagious illness of self or people in close contact

PC16. avoid contact with ill people and self-isolate in a similar situation

Housekeeping and waste management

To be competent, the user/individual on the job must be able to:

PC17. follow the fundamentals of 5S for housekeeping

PC18. ensure good housekeeping in order to prevent hazards and accidents

PC19. store the material, tools and equipment in the correct location and in good condition

PC20. segregate waste into different categories

PC21. identify recyclable, non-recyclable and hazardous waste

PC22. dispose non-recyclable, recyclable and reusable waste appropriately at identified location

Material and energy conservation

To be competent, the user/individual on the job must be able to:

PC23. identify ways to optimize usage of material in various tasks/activities/processes

PC24. check for spills/leakages in various tasks/activities/processes

PC25. plug spills/leakages and escalate to appropriate authority if unable to rectify

PC26. check if the equipment/machine is functioning normally before commencing work and rectify wherever required

PC27. ensure electrical equipment and appliances are properly connected and turned off when not in use

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. organisation procedures for health, safety and security, individual role and responsibilities in this context

KU2. the organisation's emergency procedures for different emergency situations and the importance of following the same

KU3. evacuation procedures for workers and visitors

KU4. how and when to report hazards

KU5. potential hazards, risks and threats based on the nature of work

KU6. preventative and remedial actions to be taken in case of exposure to toxic material

KU7. various types of fire extinguisher

KU8. various types of safety signs and their meaning

KU9. appropriate first aid treatment relevant to different condition e.g. bleeding, minor burns, eye injuries etc.

KU10. relevant standards, procedures and policies related to 5S followed in the company

KU11. the various materials used and their storage norms

KU12. efficient utilisation of material and water

- KU13. basics of electricity and prevalent energy efficient devices
- KU14. common practices of conserving electricity
- KU15. categorisation of waste into dry, wet, recyclable, non-recyclable and items of single-use plastics
- KU16. usage of different colors of dustbins
- KU17. waste management techniques

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1. read safety instructions/guidelines
- GS2. modify work practices to improve them
- GS3. ask for clarifications from superior about the job requirement
- GS4. work with supervisors/team members to carry out work related tasks
- GS5. complete tasks efficiently and accurately within stipulated time
- GS6. inform/report to concerned person in case of any problem
- GS7. make timely decisions for efficient utilization of resources
- GS8. write reports such as accident report, in at least English/regional language
- GS9. be punctual and utilize time efficiently

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Maintain safe and secure working environment</i>	10	14	-	6
PC1. identify hazardous activities and the possible causes of risks or accidents in the workplace	2	2	-	1
PC2. follow safe working practices while dealing with hazards to ensure safety of self and others	2	3	-	1
PC3. use appropriate protective clothing/ equipment for specific tasks and work	1	2	-	1
PC4. follow appropriate safety practices while working in and around trenches, elevated places and confined areas	2	1	-	-
PC5. lift heavy objects safely using correct procedures	1	2	-	1
PC6. carry out routine check of the machine for identifying potential hazards	1	2	-	1
PC7. report any identified breaches in health, safety and security policies and procedures to the designated person	1	2	-	1
<i>Emergencies, rescue and first aid procedures</i>	6	9	-	5
PC8. use appropriate type of fire extinguisher	1	1	-	1
PC9. apply appropriate rescue techniques during fire hazard	1	2	-	1
PC10. provide appropriate first aid procedure to victims wherever required eg. in case of bleeding, burns, choking, electric shock etc.	2	2	-	1
PC11. follow emergency procedures such as raising alarm, safe evacuation etc.	1	2	-	1
PC12. attend safety training and fire drills to respond promptly during an emergency	1	2	-	1
<i>Health and hygiene</i>	2	6	-	2
PC13. follow regular cleaning and disinfection practices at work place using appropriate techniques and materials	1	2	-	1

PC14.follow hand hygiene practices at work place using appropriate techniques and materials	1	2	-	1
PC15.report regarding the contagious illness of self or people in close contact	-	1	-	-
PC16.avoid contact with ill people and self-isolate in a similar situation	-	1	-	-
<i>Housekeeping and waste management</i>	7	12	-	5
PC17.follow the fundamentals of 5S for housekeeping	2	3	-	2
PC18.ensure good housekeeping in order to prevent hazards and accidents	1	2	-	-
PC19.store the material, tools and equipment in the correct location and in good condition	1	2	-	-
PC20.segregate waste into different categories	1	2	-	1
PC21.identify recyclable, non-recyclable and hazardous waste	1	1	-	1
PC22.dispose non-recyclable, recyclable and reusable waste appropriately at identified location	1	2	-	1
<i>Material and energy conservation</i>	5	9	-	2
PC23.identify ways to optimize usage of material in various tasks/activities/processes	1	2	-	-
PC24.check for spills/leakages in various tasks/activities/processes	1	2	-	1
PC25.plugin spills/leakages and escalate to appropriate authority if unable to rectify	1	2	-	1
PC26.check if the equipment/machine is functioning normally before commencing work and rectify wherever required	1	2	-	-
PC27.ensure electrical equipment and appliances are properly connected and turned off when not in use	1	1	-	-
NOS Total	30	50	-	20

National Occupational Standards (NOS) Parameters

NOS Code	ISC/N0008
NOS Name	Use basic health and safety practices at the work place
Sector	Iron & Steel
Sub-Sector	Generic
Occupation	Generic
NSQF Level	3
Credits	TBD
Version	2.0
Last Reviewed Date	NA
Next Review Date	NA
NSQC Clearance Date	

ISC/N0009: Work effectively with others

Description

This OS unit is about communicating with colleagues/superiors and others, either in own work group or in other work groups within organisation.

Scope

The scope covers the following :

- Communicate effectively with colleagues and others
- Interact with supervisor
- Follow appropriate behaviour at work place

Elements and Performance Criteria

Communicate effectively with colleagues and others

To be competent, the user/individual on the job must be able to:

- PC1. coordinate with colleagues to share work, as per the workload in order to achieve team goals
- PC2. maintain clear communication with colleagues and others, wherever needed, through all means i.e. face-to-face, telephonic or written
- PC3. adjust communication styles to reflect gender and persons with disability (PwD) sensitivity
- PC4. respect all colleagues and co-workers
- PC5. resolve conflicts by communicating with colleagues and other departments

Interact with supervisor

To be competent, the user/individual on the job must be able to:

- PC6. identify work requirements by receiving instructions from reporting supervisor
- PC7. escalate problems to supervisors that cannot be handled
- PC8. report the completed work
- PC9. interact with the reporting supervisor about any possible hazards and safety concerns

Follow appropriate behaviour at work place

To be competent, the user/individual on the job must be able to:

- PC10. extend help to people with Disability (PwD) at workplace, if required
- PC11. empathize with people with disability
- PC12. adopt a gender neutral behavior
- PC13. adopt responsible and disciplined behaviours at the workplace

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:



- KU1. the importance of effective communication and establishing good working relationships with colleagues and supervisor
- KU2. different methods of communication as per the circumstances
- KU3. importance of teamwork in organization and individual success
- KU4. various components of effective communication
- KU5. barriers to effective communication
- KU6. common reasons for interpersonal conflict
- KU7. what constitutes disciplined behaviour for a working professional
- KU8. gender concepts, issues & legislation
- KU9. organisational policies and procedures related to gender equality
- KU10. challenges faced by PWD and the ways to help them overcome the same

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1. read instructions/guidelines/procedures
- GS2. listen effectively and orally communicate information
- GS3. ask for clarification and advice from the concerned person
- GS4. maintain positive and effective relationships with colleagues
- GS5. evaluate the possible solution(s) to the problem
- GS6. spot and communicate potential areas of disruptions in the work process and report the same
- GS7. complete written work with attention to detail
- GS8. check that the work meets customer requirements

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Communicate effectively with colleagues and others</i>	13	20	-	9
PC1. coordinate with colleagues to share work, as per the workload in order to achieve team goals	3	5	-	2
PC2. maintain clear communication with colleagues and others, wherever needed, through all means i.e. face-to-face, telephonic or written	5	7	-	3
PC3. adjust communication styles to reflect gender and persons with disability (PwD) sensitivity	3	4	-	2
PC4. respect all colleagues and co-workers	1	2	-	1
PC5. resolve conflicts by communicating with colleagues and other departments	1	2	-	1
<i>Interact with supervisor</i>	8	14	-	6
PC6. identify work requirements by receiving instructions from reporting supervisor	2	3	-	1
PC7. escalate problems to supervisors that cannot be handled	2	3	-	2
PC8. report the completed work	2	3	-	1
PC9. interact with the reporting supervisor about any possible hazards and safety concerns	2	5	-	2
<i>Follow appropriate behaviour at work place</i>	9	16	-	5
PC10. extend help to people with Disability (PwD) at workplace, if required	2	4	-	2
PC11. empathize with people with disability	2	4	-	1
PC12. adopt a gender neutral behavior	2	4	-	1
PC13. adopt responsible and disciplined behaviours at the workplace	3	4	-	1
NOS Total	30	50	-	20

National Occupational Standards (NOS) Parameters

NOS Code	ISC/N0009
NOS Name	Work effectively with others
Sector	Iron & Steel
Sub-Sector	Generic
Occupation	Generic
NSQF Level	3
Credits	TBD
Version	2.0
Last Reviewed Date	NA
Next Review Date	NA
NSQC Clearance Date	

ISC/N0401: Prepare the vehicle

Description

This OS unit is about inspecting & preparing the Vehicle (mobile equipment) for activities that need to be carried out.

Scope

The scope covers the following :

- Identify work requirements
- Inspect and prepare the vehicle for operation

Elements and Performance Criteria

Identify work requirements

To be competent, the user/individual on the job must be able to:

- PC1. identify the work requirements from the instructions received from supervisor
PC2. prepare a work plan to carry out the job

Inspect and prepare the vehicle for operation

To be competent, the user/individual on the job must be able to:

- PC3. check oil levels of engine, transmission, radiator coolant and brake
PC4. check differential and hydraulic oil levels
PC5. check the hydraulic hose and ram for leakages
PC6. check various controls, gauges, parking brake, main horn, reverse horn, head light, warning lamp, other safety devices etc. for proper functioning and any defect
PC7. check and adjust fan belt tension, driving position, rear and side mirrors, seat belts etc.
PC8. clean dust from the air filter and drain water and sediment from the fuel tank
PC9. fill coolant and oil in engine, transmission, etc. if necessary
PC10. check electrolyte level, terminals, seating arrangements of the battery
PC11. apply grease to all greasing pins and pivot points of the vehicle
PC12. ensure the locking bar of vehicle is in position to prevent the front and rear chassis (articulated machines only)
PC13. keep footplates and steps clean and free from mud, dirt and oil
PC14. report defects precisely to the supervisor if beyond scope of his role

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1. relevant standards and procedures followed in the company
KU2. quality and damage checks to be done and importance of the same



- KU3. risk and impact of not following defined procedures/work instructions
- KU4. basic technology used in and functioning of various systems and components of the vehicle (Forklift, JCB, Skid Loader/Bobcat, Pay loader)
- KU5. working principle of each mobile equipment available in steel plant
- KU6. associated equipment, accessories and components of vehicle (Forklift, JCB, Skid Loader/Bobcat, Pay loader)
- KU7. normal running characteristics of each vehicle (Forklift, JCB, Skid Loader/Bobcat, Pay loader)
- KU8. how to inspect mobile equipment and its components before operation

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1. read signals, work instructions, equipment manuals and process documents
- GS2. communicate the process requirements to the supervisor and co-workers
- GS3. attentively listen and comprehend the information given by the supervisor/team members
- GS4. write work related information in English/regional language
- GS5. recognise a workplace problem and take suitable action
- GS6. analyse and apply the information gathered from observation, experience, reasoning or communication to act efficiently
- GS7. plan and organise work according to the work requirements
- GS8. complete the assigned tasks with minimum supervision
- GS9. report to the supervisor or deal with a colleague individually, depending on the type of concern

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Identify work requirements</i>	2	4	-	1
PC1. identify the work requirements from the instructions received from supervisor	1	2	-	1
PC2. prepare a work plan to carry out the job	1	2	-	-
<i>Inspect and prepare the vehicle for operation</i>	28	46	-	19
PC3. check oil levels of engine, transmission, radiator coolant and brake	2	3	-	2
PC4. check differential and hydraulic oil levels	2	3	-	2
PC5. check the hydraulic hose and ram for leakages	2	3	-	1
PC6. check various controls, gauges, parking brake, main horn, reverse horn, head light, warning lamp, other safety devices etc. for proper functioning and any defect	5	9	-	3
PC7. check and adjust fan belt tension, driving position, rear and side mirrors, seat belts etc.	3	6	-	3
PC8. clean dust from the air filter and drain water and sediment from the fuel tank	2	3	-	1
PC9. fill coolant and oil in engine, transmission, etc. if necessary	3	4	-	1
PC10. check electrolyte level, terminals, seating arrangements of the battery	3	4	-	1
PC11. apply grease to all greasing pins and pivot points of the vehicle	2	4	-	2
PC12. ensure the locking bar of vehicle is in position to prevent the front and rear chassis (articulated machines only)	1	2	-	1
PC13. keep footplates and steps clean and free from mud, dirt and oil	2	3	-	1
PC14. report defects precisely to the supervisor if beyond scope of his role	1	2	-	1
NOS Total	30	50	-	20

National Occupational Standards (NOS) Parameters

NOS Code	ISC/N0401
NOS Name	Prepare the vehicle
Sector	Iron & Steel
Sub-Sector	Steel, Sponge iron, Ferro Alloys, Re-Rollers, Refractory
Occupation	Iron Making
NSQF Level	3
Credits	TBD
Version	2.0
Last Reviewed Date	NA
Next Review Date	NA
NSQC Clearance Date	

ISC/N0402: Perform mobile equipment operations

Description

This OS unit is about operating the vehicle (mobile equipment) to transfer the material as required by the engaging department.

Scope

The scope covers the following :

- Operate the vehicle to transfer material

Elements and Performance Criteria

Operate the vehicle to transfer material

To be competent, the user/individual on the job must be able to:

- PC1. start the engine using the push-button switch and key switch together
- PC2. use the priming pump and pre-heater to start the engine in cold weather conditions
- PC3. load the material to be transferred safely & correctly, ensuring that it is not damaged or spilt or does not slip/fall-off during loading or journey
- PC4. move the vehicle along with the material and transfer them to the designated or specified area
- PC5. follow safety practices such as wear safety belt & helmet, do not use phones etc. while driving
- PC6. look out for pedestrians, people working, stationary objects and hazards such as trenches, potholes, overhead pipes, power lines, confined space etc. during driving
- PC7. operate the shifting quadrant device for selecting the correct gear setting
- PC8. ensure vehicle load and operating speed are within limits as specified by the manufacturer
- PC9. follow the road signs and locally developed signals during driving
- PC10. select & use the right type of brake in different situations during journey
- PC11. discharge the load safely at the position and in the manner as specified in WI/SOP
- PC12. park the vehicle on firm, level ground; with handbrake applied and drive & controls disengaged after completion of work
- PC13. put the front accessory (boom, fork, basket/bucket) in lowered condition touching the ground; switch the engine off, apply handbrake and alight from the seat

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1. relevant standards and procedures followed in the company
- KU2. quality and damage checks to be done and importance of the same
- KU3. risk and impact of not following defined procedures/work instructions
- KU4. basic technology used in and functioning of various systems and components of the vehicle (Forklift, JCB, Skid Loader/Bobcat, Pay loader)



- KU5. associated equipment, accessories and components of vehicle (Forklift, JCB, Skid Loader/Bobcat, Pay loader)
- KU6. normal running characteristics of each vehicle (Forklift, JCB, Skid Loader/Bobcat, Pay loader)
- KU7. SOP recommended by the manufacturer for using vehicle (Forklift, JCB, Skid Loader/Bobcat, Pay loader)
- KU8. how to load, transfer and unload the material from mobile equipment
- KU9. general safety rules vis-à-vis loading, hauling, stocking and parking
- KU10. operation and safety aspects of the equipment, especially of the forks, boom, basket, bucket etc.
- KU11. possible causes of common problems during operation of mobile equipment and remedies

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1. read signals, work instructions, equipment manuals and process documents
- GS2. communicate the process requirements to the supervisor and co-workers
- GS3. attentively listen and comprehend the information given by the supervisor/team members
- GS4. write work related information in English/regional language
- GS5. recognise a workplace problem and take suitable action
- GS6. analyse and apply the information gathered from observation, experience, reasoning or communication to act efficiently
- GS7. plan and organise work according to the work requirements
- GS8. complete the assigned tasks with minimum supervision
- GS9. report to the supervisor or deal with a colleague individually, depending on the type of concern

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Operate the crane to transfer material</i>	30	50	-	20
PC1. start the engine using the push-button switch and key switch together	1	2	-	1
PC2. use the priming pump and pre-heater to start the engine in cold weather conditions	1	2	-	1
PC3. load the material to be transferred safely & correctly, ensuring that it is not damaged or spilt or does not slip/fall-off during loading or journey	3	5	-	2
PC4. move the vehicle along with the material and transfer them to the designated or specified area	6	10	-	3
PC5. follow safety practices such as wear safety belt & helmet, do not use phones etc. while driving	1	2	-	1
PC6. look out for pedestrians, people working, stationary objects and hazards such as trenches, potholes, overhead pipes, power lines, confined space etc. during driving	3	5	-	2
PC7. operate the shifting quadrant device for selecting the correct gear setting	2	3	-	2
PC8. ensure vehicle load and operating speed are within limits as specified by the manufacturer	1	2	-	1
PC9. follow the road signs and locally developed signals during driving	1	2	-	1
PC10. select & use the right type of brake in different situations during journey	2	3	-	1
PC11. discharge the load safely at the position and in the manner as specified in WI/SOP	4	7	-	3
PC12. park the vehicle on firm, level ground; with handbrake applied and drive & controls disengaged after completion of work	3	4	-	1
PC13. put the front accessory (boom, fork, basket/bucket) in lowered condition touching the ground; switch the engine off, apply handbrake and alight from the seat	2	3	-	1
NOS Total	30	50	-	20

National Occupational Standards (NOS) Parameters

NOS Code	ISC/N0402
NOS Name	Perform mobile equipment operations
Sector	Iron & Steel
Sub-Sector	Steel, Sponge iron, Ferro Alloys, Re-Rollers, Refractory
Occupation	Iron Making
NSQF Level	3
Credits	TBD
Version	2.0
Last Reviewed Date	NA
Next Review Date	NA
NSQC Clearance Date	



ISC/N0403: Perform maintenance of the mobile equipment

Description

This OS unit is about performing routine maintenance and troubleshooting tasks on the Vehicle / Mobile Equipment.

Scope

The scope covers the following :

- Prepare for maintenance work
- Repair and maintain the mobile equipment
- Conducting trials and documentation

Elements and Performance Criteria

Prepare for maintenance work

To be competent, the user/individual on the job must be able to:

- PC1.** identify the vehicle, its manufacturer's specifications and functioning from the user manual and vehicle drawings
- PC2.** read maintenance schedule and checklist and plan the time and schedule for conducting the maintenance
- PC3.** track machine operating hours to assess the right service schedule
- PC4.** identify and arrange the tools, consumables and spare parts required during the task

Repair and maintain the mobile equipment

To be competent, the user/individual on the job must be able to:

- PC5.** follow safety practices during maintenance activities as per organisational SOP
- PC6.** perform basic health check-up of vehicle as specified in the maintenance checklist
- PC7.** dismantle the vehicle components and replace/change the spare parts and consumables of the vehicle as per the schedule
- PC8.** replenish coolants, lubricants and fluids
- PC9.** clean air filter dust bowls, footplates, pedals and steps and ensure that they are free from mud, or dirt
- PC10.** check the internal conditions of vehicle parts i.e. bearings, shafts, battery systems, motors, wiring harness and connectors and other similar parts etc. to test its working status and expected conditions
- PC11.** check the systems of the vehicle to find out root cause of the problems like any leakage, short circuit in parts, breakage of wires and clamps, unusual contact of electrical wires with other parts etc. and discuss the same with senior if required
- PC12.** use recommended consumables, tools and equipment for service and repair of the vehicle as per Standard Operating Procedures (SOP)
- PC13.** apply grease on all greasing pins and pivot points of the vehicle
- PC14.** check and maintain the tyre rims, air pressure, wheel nuts and treads



- PC15. assess when the problem is beyond his competence and report the problem to suitably qualified/designated and competent personnel
- PC16. dispose off waste materials such as failed parts/aggregates, as per organisation's policies

Conducting trials and documentation

To be competent, the user/individual on the job must be able to:

- PC17. assemble back all the components of the vehicle as per the drawing and prepare it for conducting the trials
- PC18. conduct trials of the vehicle and verify that specified parameters are attained with no abnormalities
- PC19. change the maintenance due/status sticker on the vehicle
- PC20. record all repairs carried out, time taken and unplanned tasks encountered during the maintenance activities

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1. relevant standards and procedures followed in the company
- KU2. basic technology used in and functioning of various systems and components of the vehicle (Forklift, JCB, Skid Loader/Bobcat, Pay loader)
- KU3. associated equipment, accessories and components of vehicle (Forklift, JCB, Skid Loader/Bobcat, Pay loader)
- KU4. normal running characteristics of each vehicle (Forklift, JCB, Skid Loader/Bobcat, Pay loader)
- KU5. how to read maintenance schedules and checklists recommended by the manufacturer
- KU6. how to read vehicle layout or drawing and wiring diagrams to understand its structure
- KU7. Standard Operating Procedures (SOP) recommended by OEM for using tools and equipment required
- KU8. how to collect and store consumables, spare parts, tools, etc. as per organizational procedures
- KU9. use of appropriate PPE, material handling equipment and tools for completing the maintenance tasks
- KU10. corrective actions for common faults and failures in vehicle (Forklift, JCB, Skid Loader/Bobcat, Pay loader)
- KU11. documentation required regarding repair, maintenance and service performed

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1. read work instructions, equipment manuals and process documents
- GS2. communicate the process requirements to the supervisor and co-workers
- GS3. attentively listen and comprehend the information given by the supervisor/team members
- GS4. write work related information in English/regional language

- GS5. recognise a workplace problem and take suitable action
- GS6. analyse and apply the information gathered from observation, experience, reasoning or communication to act efficiently
- GS7. plan and organise work according to the work requirements
- GS8. complete the assigned tasks with minimum supervision
- GS9. report to the supervisor or deal with a colleague individually, depending on the type of concern

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare for maintenance work</i>	4	7	-	4
PC1. identify the vehicle, its manufacturer's specifications and functioning from the user manual and vehicle drawings	1	2	-	1
PC2. read maintenance schedule and checklist and plan the time and schedule for conducting the maintenance	1	2	-	1
PC3. track machine operating hours to assess the right service schedule	-	1	-	-
PC4. identify and arrange the tools, consumables and spare parts required during the task	2	2	-	2
<i>Repair and maintain the mobile equipment</i>	22	36	-	13
PC5. follow safety practices during maintenance activities as per organisational SOP	1	1	-	-
PC6. perform basic health check-up of vehicle as specified in the maintenance checklist	3	5	-	2
PC7. dismantle the vehicle components and replace/change the spare parts and consumables of the vehicle as per the schedule	1	2	-	1
PC8. replenish coolants, lubricants and fluids	1	2	-	-
PC9. clean air filter dust bowls, footplates, pedals and steps and ensure that they are free from mud, or dirt	2	3	-	1
PC10. check the internal conditions of vehicle parts i.e. bearings, shafts, battery systems, motors, wiring harness and connectors and other similar parts etc. to test its working status and expected conditions	4	6	-	3
PC11. check the systems of the vehicle to find out root cause of the problems like any leakage, short circuit in parts, breakage of wires and clamps, unusual contact of electrical wires with other parts etc. and discuss the same with senior if required	4	6	-	3

PC12.use recommended consumables, tools and equipment for service and repair of the vehicle as per Standard Operating Procedures (SOP)	1	2	-	1
PC13.apply grease on all greasing pins and pivot points of the vehicle	1	2	-	1
PC14.check and maintain the tyre rims, air pressure, wheel nuts and treads	2	3	-	1
PC15.assess when the problem is beyond his competence and report the problem to suitably qualified/designated and competent personnel	1	2	-	-
PC16.dispose off waste materials such as failed parts/aggregates, as per organisation's policies	1	2	-	-
<i>Conducting trials and documentation</i>	4	7	-	3
PC17.assemble back all the components of the vehicle as per the drawing and prepare it for conducting the trials	1	2	-	-
PC18.conduct trials of the vehicle and verify that specified parameters are attained with no abnormalities	1	2	-	1
PC19.change the maintenance due/status sticker on the vehicle	1	1	-	1
PC20.record all repairs carried out, time taken and unplanned tasks encountered during the maintenance activities	1	2	-	1
NOS Total	30	50	-	20

National Occupational Standards (NOS) Parameters

NOS Code	ISC/N0403
NOS Name	Perform maintenance of the mobile equipment
Sector	Iron & Steel
Sub-Sector	Steel, Sponge iron, Ferro Alloys, Re-Rollers, Refractory
Occupation	Iron Making
NSQF Level	3
Credits	TBD
Version	2.0
Last Reviewed Date	NA
Next Review Date	NA
NSQC Clearance Date	

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training center based on these criteria.
5. In case of successfully passing only certain number of NOSs, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.
6. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

Minimum Aggregate Passing % at QP Level : 70

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
ISC/N0008. Use basic health and safety practices at the work place	30	50	0	20	100	15
ISC/N0009. Work effectively with others	30	50	0	20	100	15
ISC/N0401. Prepare the vehicle	30	50	0	20	100	20
ISC/N0402. Perform mobile equipment operations	30	50	0	20	100	30
ISC/N0403. Perform maintenance of the mobile equipment	30	50	0	20	100	20
Total	150	250	0	100	500	100

Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training

Glossary

Sector	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar / related set of functions in an industry.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
Occupational Standards (OS)	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria (PC)	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
National Occupational Standards (NOS)	NOS are occupational standards which apply uniquely in the Indian context.
Qualifications Pack (QP)	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
Unit Code	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
Unit Title	Unit title gives a clear overall statement about what the incumbent should be able to do.
Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
Scope	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.
Knowledge and Understanding (KU)	Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.

Organisational Context	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills/Generic Skills (GS)	Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.
Electives	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
Options	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.